

December 1, 2009

REPAIR REPORT

Customer: UNIVERSITY OF CALIFORNIA

The following information was found with the unit returned for repair:

Model Number: HMP45AC

Serial Number: U3030041

Returned Under RMA # 95- 78918

Problem:

The Modified Probe Cable Was Not Working. Intermittent Readings.

Action:

The Probe Only Was Calibrated. A New Probe Cable Needs To Be Ordered By Customer.

Regards,

Matthew Nocivelli
Service Technician

Report #: 120109-U3030041-RH RMA #: 95-78918

Calibration Date: Dec-01-2009

Model #: HMP45AC

Serial #: U3030041

Instrument Type: Humidity Transmitter

Ch 1: 0...1 V, 0...100 %RH

Calibration Procedure: 11603100

Instrument Range: 0.8 to 100%, RH

Ch 2: 0...1 V, -40...+60 °C, T

Recommended Calibration Due Date: Dec-01-2010

Instrument Range: -39.2 to +60 °C, T

Customer: UNIVERSITY OF CALIFORNIA

City, State: BERKLEY, CA

This unit was calibrated by adjusting its reading at 0% against a dry-air line and at 75% against reference humidity and temperature instrument, Vaisala model HMP233. Additional instrument verification checkpoints were made against HMP233 reference at 11%RH and 33%RH. Calibration and instrument verification sequences utilize a dry-air line and a set of controlled aqueous salt solutions Vaisala model HMK13B. Laboratory ambient conditions are humidity and temperature controlled. The calibration uncertainty is presented at 95% confidence level, k=2. The standard uncertainty of the measurement has been determined in accordance with U.S. Guide to the Expression of Uncertainty in Measurement.

Calibration Data (As Found)				
Out of Tolerance: YES				
Temperature Calibration, °C				
Reference	Unit Under Test	Error	± Tolerance, °C	± Uncertainty, °C
22.23	21.80	-0.43	0.20	0.07
Humidity Calibration, %RH				
Reference	Unit Under Test	Error	± Tolerance, %	± Uncertainty %
0.03	-0.60	-0.63	2.00	0.50
11.21	10.00	-1.21	2.00	0.92
32.69	31.20	-1.49	2.00	1.01
74.58	71.60	-2.98	2.00	1.02
Calibration Data (As Left)				
Temperature Calibration, °C				
Reference	Unit Under Test	Error	± Tolerance, °C	± Uncertainty, °C
22.52	22.60	0.08	0.20	0.07
Humidity Calibration, %RH				
Reference	Unit Under Test	Error	± Tolerance, %	± Uncertainty %
0.03	0.00	-0.03	2.00	0.50
11.26	11.50	0.24	2.00	0.92
32.82	32.79	-0.03	2.00	1.01
75.39	75.50	0.11	2.00	1.02

Problem Noted: The probe was out of tolerance. The modified probe cable was not working. Intermittent readings.

Action Taken: The probe only was calibrated.

The results of this calibration are related only to the items being calibrated at the time of calibration, and are traceable to the National Institute of Standards and Technology. Vaisala's calibration system has been established to meet the requirements of ANSI/NCSL Z540-1-1994. This certificate can not be reproduced, except in full, without the expressed written consent of Vaisala. The certificate was established to comply with the requirements of ISO/IEC17025. Vaisala is ISO 9001:2000 certified.

Calibration Equipment Used: Workstation 4A			
Model Number	Serial Number	Calibration Date	Due Date
DMP248	Z3230008	Jun. 29, 2009	Jun. 29, 2010
Fluke 45	7405020	Aug. 15, 2008	Feb. 15, 2010
HMK13B	513796	Oct. 16, 2009	Apr. 16, 2010
HMT333	B0920003	Sep. 9, 2009	Dec. 9, 2009
HMT333	B0920013	Nov. 16, 2009	Feb. 16, 2010
HMI41/HMP45	S0720005	Sep. 22, 2009	Mar. 22, 2010

Ambient Conditions	
Temperature:	21.80 °C
Humidity:	49.70 %RH

Approved By

Technical Operator
Matthew Nocivelli